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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,652	08/08/2001	Larry G. Felix	A-69489/AJT	5519

7590

06/27/2003

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EXAMINER

RAEVIS, ROBERT R

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,652

Applicant(s)

FELIX ET AL. 

Examiner

Robert R. Raevis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 8, 22, 17, 21/17, 18, 21/18, 23/18, 24/18, 19, 23/19, 24/19.

Continuation of Disposition of Claims: Claims rejected are 1, 3/1, 10/1, 2, 3/1, 9, 10/2, 4-7, 11-14, 20/14, 21/14, 15, 20/15, 21/15, 16, 20/16, 21/16.

DETAILED ACTION

1. Claims 1, 3/1, 4-7, 14, 20/14, 21/14, 2, 3/2, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrback 771' in view of Rohrback '348, and further in view of Farrell (GB 2 262 608).

Rohrback teaches every limitation of claim 1, but does not call the probe a "coupon", does not appear to refer to "rates" in the written specification, does not call for equal changes in resistance with equal changes in temperature between the corrosive and reference elements, and does not call for chemically inert "in a fireside environment".

As to claims 1, 3/1, 14; Rohrback's device may be coined a coupon as its structure physically varies in an environment for testing and is detachable as is a coupon. Also, as the term "rate" is in the claim's preamble, it does not appear to be a material limitation in this apparatus claim, but in anycase, it is known to determine rates of corrosion, suggestive of making two measurements with Rohrback over a known time period. Finally, it would have been obvious to employ equal size test 13 and reference 12 elements in Rohrback '771 as Rohrback '348 teaches use of equally dimensioned elements 32 and 34 for corrosion sensors. Finally, Farrell teaches (page 4, last full paragraph) that corrosion sensor usage is desirable in the boiler, furnace industries. In addition, it is known that ceramic material has a thermal conductivity higher than other materials, and that it is even referred to as having a "high thermal conductivity".

As to claims 4, 5, 6, 7, 20/14, 21/14; Rohrbacks's call for any non-conductive substrate (col. 3, lines 17-20) is suggestive of any such material.

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As to claims 2, 3/2, 9; Rohrback's '348 resistors 32 and 33 are dimensionally similar, suggestive of use of similar size resistors in Rohrback '771.

2. Claims 11, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrback '771 in view of Rohrback '348, and further in view of Farrell, and further in view of Schmidt.

Comments that exist above apply here. Also, as to claims 11 and 12; it would have been obvious to pass a current through both resistors 11, 12 of Rohrback '771 because Schmidt (clearly) teaches use a generator 8 to pass the same current through resistors to monitor corrosion.

As to claim 13; Rohrback's '348 resistors 32 and 33 are dimensionally similar, suggestive of use of similar size resistors in Rohrback '771.

3. Claims 10/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrback '771 in view of Rohrback '348, and further in view of Farrell, as applied to claim 1 above, and further in view of Caldecourt.

As to claim 10/1; it would have been obvious to employ both sides of Rohrback's substrate because Caldecourt teaches positioning resistors on opposite sides of a substrate resulting in a smaller sensor.

4. Claims 10/2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrback '771 in view of Rohrback '348, and further in view of Farrell, as applied to claim 2 above, and further in view of Caldecourt.

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As to claim 10/2; it would have been obvious to employ both sides of Rohrback's substrate because Caldecourt teaches positioning resistors on opposite sides of a substrate resulting in a smaller sensor.

5. Claims 15, 20/15, 21/15, 16, 20/16 and 21/16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrback '771 in view of Rohrback '348', and further in view of Farrell, as applied to claim 14 above, and further in view of Caldecourt.

As to claims 15, 20/15, 21/15; 16, 20/16 and 21/16; it would have been obvious to employ both sides of Rohrback's substrate because Caldecourt teaches positioning resistors on opposite sides of a substrate resulting in a smaller sensor.

6. As to Applicant's Remarks filed 6-16-03, please consider the following:

As to page 7, first paragraph, Applicant related the "identical" relation to the "long and narrow" thin film. Regarding this relation, please note that Rohrback's (either '771 or '348) both teach "long and narrow" thin film elements, and that Rohrback's '348 teaching of *equal size* test 13 and reference 12 elements are "long and narrow" thin films that necessarily provide for an identical reaction to a change in temperature. The Farrell reference speaks to the desire of having corrosion sensors that are operable when exposed to high temperatures, but the portions pointed out by Applicant refer to a transducer that employs a reference element that is "physically isolated" (page 1, line 4 from bottom, of Farrell) from the environment. Clearly, Rohrback's reference is no less "physically isolated" than that of Applicant's sensor. (Compare films 11, 12

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with cover 27 of Applicant's Figure 3; with Rohrback's '771 layers 12, 13 with cover 17). In fact, it would appear that Rohrback is provides for even less physical isolation as the films are on the same side of the probe. The transducer described on page 1 of Farrell is not identified as being Rohrback's. Farrell describes the desirability of a corrosion probe that may operate in a hostile environment. Rohrback '771 expressly refers to a substrate that is "resistant to high temperatures" (col. 1, lines 61-63) but did not expressly place those "temperatures" in the "fireside" (claim 1, line 1) level. It would appear that Farrell suggests that a desirable level would be the "fireside" level, suggestive of trying Rohrback's (and not necessarily the unexplained probe of p. 1 of Farrell) in that environment. In that manner, the substrate of Rohrback "ceramic" substrate 10 would be shown to be "inert in a fireside environment" as claimed.

Finally, please note that the Farrell reference speaks only to the desirability of using a probe in a hostile ("fireside") environment. This feature may already be inherent in Rohrback, which expressly teaches a ceramic substrate, inherently suggestive of the claimed "substrate being formed of material that is chemically inert in a fireside environment" (of claims 1, 11, 14).

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 703-305-4919. The examiner can normally be reached on Monday to Friday from 6:30am to 4:00pm. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

Raevis

RAEVIS

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